

I Claim:

1. A communication network comprising:
at least two switches, each switch being capable
of maintaining a database of VLAN membership;
5 a backbone network interconnecting the switches;
and
at least one network node coupled to at least one
of the switches,
wherein the VLAN membership databases in said at
10 least two switches are synchronized with one another.

2. The communication network according to claim 1,
wherein VLANs and the VLAN membership are dynamically
provisioned across the backbone network.

3. The communication network according to claim 1,
wherein VLANs and the VLAN membership are statically
provisioned across the backbone network.

4. The communication network according to claim 1,
wherein when coupling of said at least one network node is
moved from a first switch to a second switch, the second
switch is capable of advertising the move.

5. The communication network according to claim 4,
wherein the first switch is capable of learning of the
move, whereby the first switch does not go through a full
time out period.

6. The communication network according to claim 1,
wherein a protocol between said at least two switches has
topology discovery capability.

7. The communication network according to claim 6,
wherein the topology discovery capability comprises a
capability to learn topology connectivity as to which port
5 is connect to which other port.

8. The communication network according to claim 6,
wherein the topology discovery capability comprises a
capability to learn topology connectivity of at least one
10 selected from a group consisting of IP addresses, MACs and
VLANs.

9. The communication network according to claim 1,
wherein when a second switch is reachable through a
15 plurality of IP addresses by a first switch, the first
switch is capable of learning that the IP addresses are on
the second switch with a plurality of addressable
interfaces, each addressable interface corresponding to one
of the IP addresses.

10. The communication network according to claim 1,
wherein the VLAN membership is determined by applying at
least one policy with precedence policy to a specific
traffic.

11. The communication network according to claim 1,
wherein at least one switch is capable of automatically
discovering network nodes in the network.

12. The communication network according to claim 1,
wherein at least one switch advertises connectivity of at

least one network node across at least a portion of the backbone network.

13. The communication network according to claim 1,
5 wherein a network node is moved from a first port to a second, and wherein the learned entries and a VLAN membership for the network node are remembered.

14. The communication network according to claim 13,
10 wherein a first switch includes the first port and a second switch includes the second port.

15. A communication network comprising:
at least two switches, each switch being capable
15 of maintaining a MAC table;
a backbone network interconnecting the switches;
and
at least one network node coupled to at least one
of the switches,
20 wherein said at least two switches exchange MAC information, wherein at least one switch uses the MAC information from at least one other switch to update its MAC table.

25 16. The communication network according to claim 15, wherein at least one switch generates a frame that contains a unique ID.

17. The communication network according to claim 15,
30 wherein at least one switch builds an adjacency table.

18. The communication network according to claim 15, wherein at least one switch advertises its VLAN membership information.

5 19. The communication network according to claim 15, wherein at least one switch generates a frame that includes a list of at least one virtual router port in that switch.

10 20. The communication network according to claim 15, wherein a rapid aging of MAC takes place based on VLAN updates in at least one switch.

21. A method of updating a VLAN database, the method comprising:

15 transmitting at least one update message from a first switch;

 receiving said at least one update message at a second switch;

20 checking at least one entry in said at least one update message against the VLAN database in the second switch; and

 if a new entry is found, updating the VLAN database with the new entry.

25 22. The method according to claim 21, further comprising automatically discovering at least one network node.